

REMARKS

Claim 1 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Beach et al. (US 6,042,556) ("Beach") in view of Uchiyama et al. (US 4,958,639) ("Uchiyama").

The Office action specifically states that "Beach et al. do not specifically disclose the use of focal zone in HIFU or high-energy ultrasound burst and [sic; to] detect a disturbance in the transmission." Office Action, Page 1, paragraph 4. The Office action further states that "it would have been obvious to one having an ordinary skill in the art at the time the invention was made to apply the teachings of Uchiyama et al's shock wave therapy where the acoustical shock wave causes *disturbances to the focal spot.*" Office Action, Page 3, Paragraph 1 (emphasis added).

However, claim 1 and its dependent claims recite a method for sensing a disturbance in a transmission path comprising "analyzing the received reflected portion to detect a disturbance in the transmission path ***between the transducer and the focal zone.***" (emphasis added) As pointed out by the Office action, the disturbances caused by the shock wave in Uchiyama occur at the "focal spot" and not along "the transmission path between the transducer and the focal zone," as recited in claim 1.

Furthermore, the "observation unit 7" depicted in Fig. 1 of Uchiyama shows that the ultrasound beam used to "detect the location of a calculus" travels in a divergent path. Figure 1, Identifier 7 of Uchiyama. Thus, the observation unit in Uchiyama is not capable of "transmitting a burst of ultrasound energy from the transducer, along the transmission path, to a focal zone" in a focused ultrasound system.

Therefore, Applicants respectfully submit that Beach, when properly read in view of Uchiyama, does not teach or suggest the method for sensing a disturbance, comprising "analyzing the received reflected portion to detect a disturbance in the transmission path between the transducer and the focal zone," as recited in claim 1 and its dependent claims. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of these claims based on Beach in view of Uchiyama.

Claim 17 also stands rejected under 35 U.S.C. 103(a) as being unpatentable over Beach in view of Uchiyama.

As noted above with regard to independent claim 1, the Office action specifically states that “Beach et al. do not specifically disclose the use of focal zone in HIFU or high-energy ultrasound burst and [sic; to] detect a disturbance in the transmission.” Office Action, Page 1, paragraph 4. The Office action further states that “it would have been obvious to one having an ordinary skill in the art at the time the invention was made to apply the teachings of Uchiyama et al’s shock wave therapy where the acoustical shock wave causes *disturbances to the focal spot.*” Office Action, Page 3, Paragraph 1 (emphasis added).

However, claim 17 and its dependent claims recited a focused ultrasound system, “the system configured to analyze reflected portions of an ultrasound energy burst received by the transducer within a certain time period following transmission of the respective burst and to **detect a disturbance in the transmission path between the transducer and the focal zone** based on the analyzed portions.” (emphasis added) As pointed out by the Office action, the disturbances caused by the shock wave in Uchiyama occur at the “focal spot” and not “in the transmission path between the transducer and the focal zone” as recited in claim 17.

Furthermore, as noted above, the observation unit 7 depicted in Fig. 1 of Uchiyama shows that ultrasound beams used to “detect the location of a calculus” travel in divergent paths. Figure 1, Identifier 7 of Uchiyama. Thus, the observation unit described in Uchiyama teaches away from “a transducer configured to transmit a burst of ultrasound energy in a converging transmission path to a focal zone,” as recited in independent claim 17.

Therefore, Applicants respectfully submit that Beach, when properly read in view of Uchiyama, does not teach or suggest a focused ultrasound system as recited in amended claim 17 and its dependent claims. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of these claims based on Beach in view of Uchiyama.

CONCLUSION

For at least the reasons presented above, Applicants respectfully request that the rejection of claims 1 - 38 be withdrawn, and that the application be allowed.

If the Examiner has any questions or comments regarding this reply, the Examiner is respectfully requested to contact the undersigned at the number listed below.

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Respectfully submitted,

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